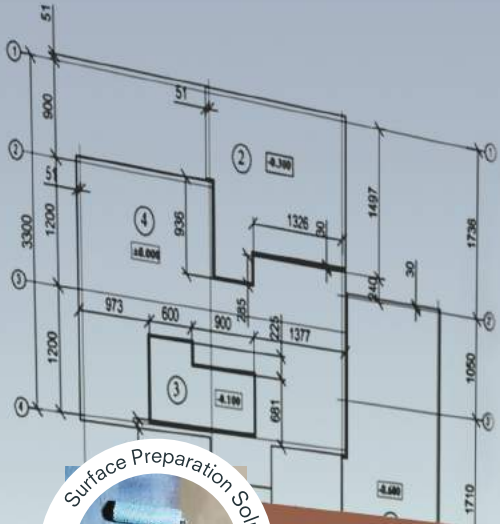


Construction Chemicals Brochure



The best product.
The best solution.
The best application.

From ceramic tile adhesive to waterproofing solutions, thermal insulation to paints, and industrial floor solutions to grouting materials...
"The best is always" available at Kalekim.

Kalekim

Kalekim A.Ş., which was founded in 1973 by Dr.(h.c.) Ibrahim Bodur, who is also the founder of Kale Group of Companies, started its activities with the production of tile adhesives and joint fillers and continues today with producing all kinds of chemicals for the construction sector.

In year 2003 Kalekim A.Ş. decided to merge with Kaleterasit A.Ş., founded in 1968, one of the leader companies of Kale Group in plaster and painting industry. After this merger, Kalekim A.Ş. added Kale-branded decorative ready-mixed plasters, interior and exterior paints into its product range.

In 2004, Kalekim entered thermal insulation market together with its business partners Dow Chemical and Mardav A.Ş. under the brand name Blue'Safe Mavi Kale. Along with the growing thermal insulation industry, Kalekim added Stone Wool and EPS to

its product range and started marketing these two products under brand name Kale Thermal Insulation Systems.

Kalekim plays a leading role in the industry by making bold and significant moves in water insulation products and introducing innovative products. Kale, the brand for interior and exterior paints as well as decorative exterior plasters, is among the top 5 brands in Turkey.

With giant investments in production technologies and R&D activities, Kalekim manufactures top quality products. Kalekim has been a leading, powerful company in technology and R&D thanks to its experience in industry. Regardless of which geography it carries out its activities, Kalekim is capable of manufacturing all products in all facilities with the same quality and performance with raw materials of the respective region and in conformance with

European Quality Standards. ISO 9001 Quality Management System, TSE and European Standards maintain the quality during production and use of all Kalekim products.

Kalekim performs its manufacturing operations domestically in Istanbul, Isparta, Mersin, Yozgat, Erzurum and Mardin facilities. Today, with a total production capacity of 700 thousand tons of construction chemicals including tile adhesives, joint fillers, water and thermal insulation materials, mastics, foams, tile cleaning and maintenance materials, industrial floorings and surface preparation materials, Kalekim is also capable of producing 100 thousand tons of interior, exterior paints and decorative exterior plasters.

Today, Kalekim products are being exported to 70 countries and Kalekim is committed becoming market leader where it operates.

Among 70 countries. Always the best.



Tile Application Information

In order to get a long life and proper tile coating, checking and making the necessary corrections of the surface are very important factors. Required checkings and corrections vary according to whether the surface is a new or an old one. In addition, taking the environmental conditions into consideration is a must.

Environmental Conditions

Because of the seasonal or geographical characteristics, the environmental conditions may change, such as very cold and hot temperatures or being subjected to direct sunlight.

— Applications at low temperatures (lower than +5°C) have drawbacks. In order to start application, it is necessary to wait until +5°C temperature is reached. This temperature is the lowest one at which cement based mortars can get the necessary setting.

— Applications at very hot temperatures (higher than 35°C) have also drawbacks. In this case, temperature must drop into the proper range (between +5°C and +35°C). At least, the surface and tiles must be moistened for decreasing the adverse effect of the high temperature.

— For applications under wind and direct sunlight, efficiency diminishes due to shortening of working time. If the application is necessary, either dampen the surface or for a better result use KALEKİM PRIMER. In addition, application of the mortar to the surface with shorter periods or buttering method is recommended.

Surface Examination and Surface Preparation

— New Surfaces: The surface (like concrete, plaster and screed) should be strong and of 3-4 weeks cured. Residues like shuttering lube that may affect adhesion should be removed and irregular, uneven areas should be flattened with TAMİRART repair mortar, correct floor disorders with MASTAR 10 leveling mortar.

— Old Surfaces: The strength of the surfaces should be carefully examined without considering how well the holding power of the new adhesive is. Concrete surface must be checked in certain intervals with a hammer, nail or chisel and if it is easy to scrap from the surface, existing concrete must be scrapped out until the strong surface is reached, any cracks or holes has to be filled with TAMİRART and flattened.

When making the surface corrections at uneven sections of the floor, correct the local disorders with TAMİRART repairing mortar, and all surface disorders with MASTAR 10 leveling mortar. Paint, mortar, oil and dirt on the surface should be completely removed because they have negative effects on adhesion.

— Absorbent Surfaces: The surfaces with high water absorbency (plaster block, plaster plate, aerated concrete, wood etc.) must be primed with KALEKİM PRIMER or KALEKİM SMOOTH SURFACE PRIMER for preventing quick evaporation of the water in the mortar that leads weak adhesion. For treatment of anhydrite surfaces GYPSASTAR should be used.

— Tile Covered Surfaces: In case of tile application on an already tile covered surface, check present coating with a hammer first. If there is weak, hardly stuck tiles either re-fix them or remove them and fill the gaps with TAMİRART repairing mortars. For this application, the selection of the adhesive mortar is important.

— Painted Surfaces: Before any application painted surface must be checked first. If there are loose and swollen areas, they should be scrapped out. In order to increase adhesion, scoring the surface is recommended.

Adhesion Methods

Two international methods are used for applications of the adhesive mortars. The main purpose to be considered here is to cover the backside of the coating plate with the mortar completely, leaving no gaps. Notched trowel type to be used in these applications is a complementary factor.

A. Combing Method

This is the most commonly used method applied in fixing of small and medium sized coating materials in fine bed mortars.

The adhesive mortar is spread onto the surface with a plain hand trowel applying a sweet force, and then is spread with notched trowel with proper size teeth with 45-60°C handling angle.

After these operations, the coating material is fixed onto the mortar bed applying force on. Additionally the coating material is fixed with the help of a rubber or wooden hammer in order to increase the adhesion

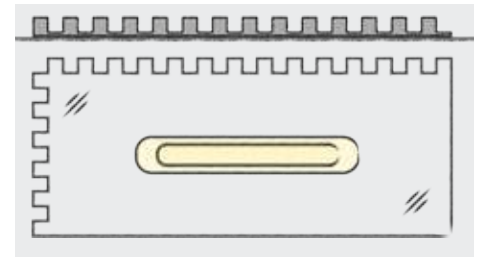
and spread of the mortar under the tile better.

B. Combined Method

This method is the one used in medium bed mortars and should be applied in sticking of big sized coating materials and on the surfaces where heavy pedestrian and load traffic exist, in cold climates and for the outer surface applications. Adhesive mortar is applied onto the surface, then spread with a notched trowel like combing method and applied onto the backside of the coating material as a thin layer like buttering method. After these operations the coating material is fixed onto the mortar bed applying force on.

Additionally the coating material is fixed with the help of a rubber or wooden hammer in order to increase the adhesion and spread of the mortar under the tile better.

Notch Size Table



| Tile Dimensions | Notch Sizes | |
|--------------------------|-------------|--|
| < 25 cm ² | 3 mm | |
| 25-100 cm ² | 4 mm | |
| 100-400 cm ² | 6 mm | |
| 400-1600 cm ² | 8 mm | |
| > 1600 cm ² | 10 mm | |



1951

Grey Tile Adhesive (C1T)



Description

Grey colour, cementitious tile adhesive.

Fields of Application

— For bonding of small and medium sized floor and wall tiles, marbles, natural stones, travertine and decorative bricks on cementitious renders, cementitious screeds and concrete.

Properties

— High adhesion strength.
— Easily trowellable.

Application

— Substrates must be free of any contamination which may prevent proper adhesion. Cementitious substrates must be cured.
— Use TAMIRART or MASTAR 10 in case of uneven substrates to get a sound and flat surface.
— Wipe the back side of tiles with water if dusty.

— Pour 25 kg of KALEKİM 1951 into 6-7.5 litres of water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Do not add any component which is not instructed in application.
— Allow to stand for 5 - 10 minutes to mature. Remix 1-2 minutes before the application.
— To obtain a good adhesion, spread the mortar onto the substrate with the flat side of trowel and notch with the toothed side of a notched trowel of which notch size is appropriate to the tile dimension.
— Open time is 20 minutes. Install the tiles on the notched mortar within this period with a firm pressure. Unfavourable climatic conditions (high temperature, low humidity, wind, etc.) can reduce this time. If this period exceed, scratch and discard the mortar.
— Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth.
— Tiles installed with KALEKİM1951 must not be subject to water for at least 24 hours.

Warnings

— Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.

Storage

— Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

— 25 kg multi-ply paper bags.

Technical Properties

(at 23° C and 50% RH)

General Data

Appearance Grey powder
Shelf Life 12 months when stored in the original sealed packing in dry place.

Application Data

Application Temperature Range (+5°C) - (+35°C)
Mixing Ratio 6.5 - 7 lt water / 25 kg powder
Pot Life 6 hours
Open Time (EN 1346) After 20 minutes $\geq 0,5$ N/mm²
Set to Light Traffic 8 hours on wall; 24 hours after on floor
Consumption Approx. 3 - 5 kg/m²

Performance Data

Tensile Adhesion Strength (EN1348)
- initial ≥ 0.5 N/mm²
- after immersion in water ≥ 0.5 N/mm²
- after heat exposure ≥ 0.5 N/mm²
- after freeze/thaw cycles ≥ 0.5 N/mm²
Service Temperature Range (-40°C) - (+80°C)



Certificates of Quality:
TS EN 12004, Class C1T
C: Cementitious
1: Normal setting
T: Reduced slip



1952

White Tile Adhesive (C1T)



Description

White colour, cementitious tile adhesive.

Fields of Application

— For bonding of white and light colour small and medium sized floor and wall tiles, porcelain tiles, marbles, natural stones, travertine and decorative bricks on cementitious renders, cementitious screeds and concrete.

Properties

- High adhesion strength.
- Allows installation of tiles from top towards the bottom.
- Easily trowellable.
- Bonding of heavy tiles without slipping.

Application

- Substrates must be free of any contamination which may prevent proper adhesion. Cementitious substrates must be cured.
- Use TAMİRART or MASTAR 10 in case of uneven substrates to get a sound and flat surface.
- Wipe the back side of tiles with water if dusty.

- Pour 25 kg of KALEKİM 1952 into 6-7.5 litres of water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Do not add any component which is not instructed in application. any component which is not instructed in application.
- Allow to stand for 5 - 10 minutes to mature. Remix 1-2 minutes before the application.
- To obtain a good adhesion, spread the mortar onto the substrate with the flat side of trowel and notch with the toothed side of a notched trowel of which notch size is appropriate to the tile dimension.
- Open time is 20 minutes. Install the tiles on the notched mortar within this period with a firm pressure. low Unfavourable climatic conditions (high temperature, humidity, wind, etc.) can reduce this time. If this period exceed, scratch and discard the mortar.
- Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth.
- Tiles installed with KALEKİM1952 must not be subject to water for at least 24 hours.

Warnings

- Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.

Storage

- Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

- 25 kg multi-ply paper bags.

Technical Properties

(at 23° C and 50% RH)

General Data

| | |
|------------|---|
| Appearance | White powder |
| Shelf Life | 12 months when stored in the original sealed packing in dry place |

Application Data

| | |
|-------------------------------|---|
| Application Temperature Range | (+5°C) - (+35°C) |
| Mixing Ratio | 6,5 - 7 lt water / 25 kg powder |
| Pot Life | 6 hours |
| Open Time (EN 1346) | After 20 minutes $\geq 0,5$ N/mm ² |
| Set to Light Traffic | 8 hours on wall; 24 hours after on floor |
| Consumption | Approx. 3 - 5 kg/m ² |

Performance Data

| | |
|------------------------------------|------------------------------|
| Tensile Adhesion Strength (EN1348) | |
| - initial | ≥ 0.5 N/mm ² |
| - after immersion in water | ≥ 0.5 N/mm ² |
| - after heat exposure | ≥ 0.5 N/mm ² |
| - after freeze/thaw cycles | ≥ 0.5 N/mm ² |
| Service Temperature Range | (-40°C) - (+80°C) |



Certificates of Quality:
 TS EN 12004, Class C1T
 C: Cementitious
 1: Normal setting
 T: Reduced slip



1051 KALEKİM

Tile Adhesive (C1TE)



Description

Cementitious ceramic tile adhesive with extended open time and reduced slip.

Fields of Application

— Floor and wall bonding of all types of ceramic tiles, mosaic and decorative bricks on cementitious renders, cementitious screeds and concrete.
— The substrates must be primed with KALEKİM SMOOTH SURFACE PRIMER before bonding of tiles on existing ceramic tiles.

Properties

— Perfect adherence.
— Allows installation of tiles from top towards the bottom.
— Extended open time.
— Easily trowellable.

Application

— Substrates must be sound, free from oil, grease, and sufficiently dry. Cementitious substrates must be cured.
— Use TAMİRART or MASTAR 10 in case of uneven substrates to get a sound and flat surface.

— Wipe the back side of tiles with water if dusty.
— Pour 25 kg of KALEKİM into 6.5-8 litres of clean water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Do not add any additive which is not mentioned in the instructions for the application
— Allow to stand for 5-10 minutes to mature. After 1-2 minutes remixing, the paste is ready for application.
— Spread the mortar onto the substrate with notched trowel of which notch size is appropriate to the tile dimension (See Notch Size Recommendation Table). To obtain a good adhesion first apply a thin coat of KALEKİM with the flat side of trowel, then notch with the toothed side of trowel.
— Open time is 30 minutes. Install the tiles within this period with pressure. Unfavourable climatic conditions (high temperature, low humidity, wind, etc.) can reduce this time to just a few minutes. If this period exceed, scratch and discard the mortar.
— Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth.

— Tiles installed with KALEKİM 1051 must not be subject to water for at least 24 hours.

Warnings

— Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.
— Indicated consumption is a general information. It may change depending on the application conditions and surface properties.

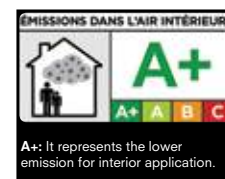
Storage

— Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

— 25 kg multi-ply paper bags.

| Technical Properties | (at 23°C and 50% RH) |
|--|--|
| General Data | |
| Appearance | Grey powder |
| Shelf Life | 12 months when stored in the original sealed packing in dry place. |
| Application Data | |
| Application Temperature Range | (+5°C) - (+35°C) |
| Mixing Ratio | 6.5-8 lt water / 25 kg powder 1.3 -1.6 lt water / 5 kg powder |
| Pot Life | Approx. 6 hours |
| Slip (EN 1308) | ≤ 0.5 mm |
| Open Time (EN 1346) | After 30 minutes ≥ 0.5 N/mm ² |
| Grouting | 8 hours on wall; 24 hours after on floor |
| Consumption | 3-5 kg/m ² |
| Performance Data | |
| Tensile Adhesion Strength (EN 1348) | |
| -initial | ≥ 0.5 N/mm ² |
| -after heat exposure | ≥ 0.5 N/mm ² |
| -after immersion in water | ≥ 0.5 N/mm ² |
| -after freeze/thaw cycles | ≥ 0.5 N/mm ² |
| Service Temperature Range (after final cure) | (-40°C)-(+80°C) |
| Release of Dangerous Substances (EN 12004) | See SDS. |
| Reaction to Fire | A1 |

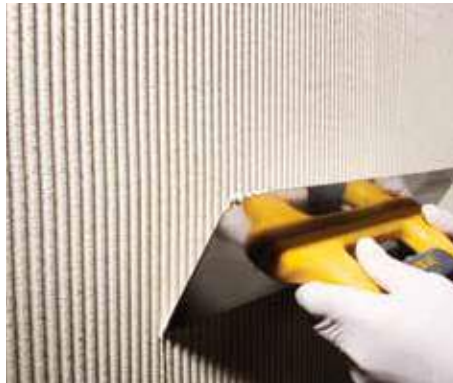


Certificates of Quality:
TS EN 12004, Class C1TE
C: Cementitious
1: Normal setting
T: Reduced slip
E: Extended open time



1052 KALEKİM BEYAZ

White Tile Adhesive (C1TE)



Description

White cementitious ceramic tile adhesive with extended open time and reduced slip.

Fields of Application

- Floor and wall bonding of all types of ceramic tiles, mosaic and decorative bricks on cementitious renders, cementitious screeds and concrete.
- The substrates must be primed with KALEKİM SMOOTH SURFACE PRIMER before bonding of tiles on existing ceramic tiles.
- Exterior bonding and grouting of glass mosaics.
- Interior and exterior bonding of glass bricks.

Properties

- Perfect adherence.
- Allows installation of tiles from top towards the bottom.
- Extended open time.
- Easily trowellable.

Application

- Substrates must be sound, free from oil, grease, and sufficiently dry. Cementitious substrates must be cured.

- Use TAMIRART or MASTAR 10 in case of uneven substrates to get a sound and flat surface.
- Wipe the back side of tiles with water if dusty.
- Pour 25 kg of KALEKİM BEYAZ into 6.5-8 litres of clean water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Do not add any additive which is not mentioned in the instructions for the application.
- Allow to stand for 5-10 minutes to mature. After 1-2 minutes remixing, the paste is ready for application.
- Spread the mortar onto the substrate with notched trowel of which notch size is appropriate to the tile dimension (See Notch Size Recommendation Table) To obtain a good adhesion first apply a thin coat of KALEKİM BEYAZ with the flat side of trowel, then notch with the toothed side of trowel.
- Open time is 30 minutes. Install the tiles within this period with pressure. Unfavourable climatic conditions (high temperature, low humidity, wind, etc.) can reduce this time to just a few minutes. If this period exceed, scratch and discard the mortar.
- Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth.

- Tiles installed with KALEKİM BEYAZ must not be subject to water for at least 24 hours.

Warnings

- Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.
- Indicated consumption is a general information. It may change depending on the application conditions and surface properties.

Storage

- Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

- 25 kg multi-ply paper bags.

Technical Properties

(at 23°C and 50% RH)

General Data

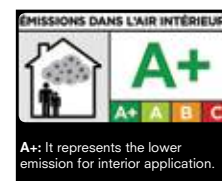
| | |
|------------|--|
| Appearance | White powder |
| Shelf Life | 12 months when stored in the original sealed packing in dry place. |

Application Data

| | |
|-------------------------------|--|
| Mixing Ratio | 6.5-8 lt water / 25 kg powder |
| Pot Life | Approx. 6 hours |
| Application Temperature Range | (+5°C)-(+35°C) |
| Slip (EN 1308) | ≤0.5 mm |
| Open Time (EN 1346) | After 30 minutes ≥ 0.5 N/mm ² |
| Grouting | 8 hours on wall; 24 hours after on floor |
| Consumption | 3-5 kg/m ² |

Performance Data

| | |
|--|-------------------------|
| Tensile Adhesion Strength (EN 1348) | |
| -initial | ≥ 0.5 N/mm ² |
| -after heat exposure | ≥ 0.5 N/mm ² |
| -after immersion in water | ≥ 0.5 N/mm ² |
| -after freeze/thaw cycles | ≥ 0.5 N/mm ² |
| Service Temperature Range (after final cure) | (-40°C)-(+80°C) |
| Release of Dangerous Substances (EN 12004) | See SDS. |
| Reaction to Fire | A1 |



Certificates of Quality:
 TS EN 12004, Class C1TE
 C: Cementitious
 1: Standard
 T: Reduced slip
 E: Extended open time

1055 GRANITECH

Granite Tile Adhesive (C2TE)



Description

High performance cementitious adhesive with extended open time and reduced slip.

Fields of Application

- Interior and exterior floor and wall bonding of all types and sizes of ceramic tiles, granite, porcelain ceramic, cotto, clinker on cementitious renders, cementitious screeds and concrete.
- Bonding of tiles on existing ceramic tiles or marble.
- Bonding of tiles on places subject to heavy traffic like shopping malls, hospitals, schools.

Properties

- Perfect adherence.
- Can be applied on vertical surfaces even for bonding of heavy tiles without slipping.
- Easily trowellable.

Application

- Substrates must be sound, free from oil, grease, and sufficiently dry. Cementitious substrates must be cured.
- Use TAMIRART or MASTAR 10 in case of uneven substrates to get a sound and flat surface. Use GYPSASTAR on anhydrite screeds.

- Wipe the back side of tiles with water if dusty.
- Pour 25 kg of GRANITECH into 5.5-7 litres of clean water slowly and mix to obtain a homogeneous paste free from lumps. A low speed mixer is recommended to mix. Do not add any additive which is not mentioned in the instructions for the application
- Allow to stand for 5-10 minutes to mature. After 1-2 minutes remixing, the paste is ready for application.
- Spread the mortar onto the substrate with notched trowel of which notch size is appropriate to the tile dimension (See Notch Size Recommendation Table) To obtain a good adhesion first apply a thin coat of GRANITECH with the flat side of trowel, then notch with the toothed side of trowel.
- Application of large tiles (greater than 40x40 cm), on existing tiles or which are subject to frost or heavy traffic, GRANITECH should be applied also on the back of tiles (combined method).
- Open time is 30 minutes. Install the tiles within this period with pressure. Unfavourable climatic conditions (high temperature, low humidity, wind, etc.) can reduce this time to just a few minutes. If this period exceed, scratch and discard the mortar.

- Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth.
- Tiles installed with GRANITECH must not be subject to water for at least 24 hours.

Warnings

- Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.
- Indicated consumption is a general information. It may change depending on the application conditions and surface properties.

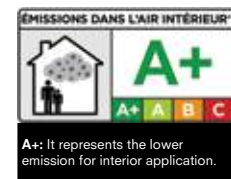
Storage

- Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

- 25 kg multi-ply paper bags.

| Technical Properties | | (at 23°C and 50% RH) |
|--|--|----------------------|
| General Data | | |
| Appearance | White powder | |
| Shelf Life | 12 months when stored in the original sealed packing in dry place. | |
| Application Data | | |
| Application Temperature Range | (+5°C)-(+35°C) | |
| Mixing Ratio | 5.5-7 lt water / 25 kg powder | |
| Pot Life | Approx. 6 hours | |
| Slip (EN 1308) | ≤ 0.5 mm | |
| Open Time (EN 1346) | After 30 minutes ≥ 0.5 N/mm ² | |
| Grouting | 8 hours on wall; 24 hours after on floor | |
| Consumption | 3-5 kg/m ² | |
| Performance Data | | |
| Tensile Adhesion Strength (EN 1348) | | |
| -initial (after 28 days) | ≥ 1 N/mm ² | |
| -after heat exposure | ≥ 1 N/mm ² | |
| -after immersion in water | ≥ 1 N/mm ² | |
| -after freeze/thaw cycles | ≥ 1 N/mm ² | |
| Service Temperature Range (after final cure) | (-40°C)-(+80°C) | |
| Release of Dangerous Substances (EN 12004) | See SDS. | |
| Reaction to Fire | A1 | |



Certificates of Quality:
 TS EN 12004, Class C2TE
 C: Cementitious
 2: Improved
 T: Reduced slip
 E: Extended Open Time



2000 FUGA

Grouting Mortar (1-6 mm)



Description

Cement based grout for 1 to 6 mm joints.

Fields of Application

— Interior floor and wall grouting of ceramic tiles, marble, natural, stone glass mosaics, for 1-6 mm joints.

Properties

- A smooth final surface.
- Good abrasion resistance.
- Low shrinkage, therefore absence of cracks and fissures.
- Available in 16 different colors.

Application

- Before grouting, wait until the adhesive has completely set.
- The joints must be clean, free of dust and raked back to at least 2/3 of the tile thickness.
- It is advisable to use SERACARE Surface Protector before application of FUGA on rough or porous tiles and stones for easy cleaning.
- Wet the joints with clean water when using very porous ceramic tiles in high temperatures and in the presence of wind.

— Pour 20 kg of FUGA into 6.6-7 lt of clean water slowly and mix to obtain a homogeneous paste free from lumps. (A low speed mixer is recommended to mix). Amount of water should be precisely measured. Do not add any additive which is not mentioned in the instructions for the application. Excess water can cause cracking, low abrasion resistance and colour defects.

- Allow to stand for 5-10 minutes to mature. After 1-2 minutes remixing, the paste is ready for application.
- Fill the joints completely with FUGA using the appropriate rubber trowel, making sure the joints are completely compacted. Remove excess FUGA from the surface moving the float diagonally across joints.
- When the mixture loses its plasticity and becomes matt, usually after 10-20 minutes, clean the surface with a damp sponge working diagonally to the joints. If cleaning is carried out when the mixture is still plastic, the grout may be dragged from the joint leading to colour variations.
- Any residue left can be cleaned from the surface with a clean dry cloth.
- If the surface of walls and floors are still contaminated with FUGA use SERACARE Cement Remover to clean, at least 10 days after grouting the joints.

- Dispose mortars of which pot life is expired.
- Clean tools and containers with plenty of water before FUGA hardens.
- When applying FUGA in extremely hot, dryer windy climates, it is recommended to wet the joints after several hours to improve the final performance.

Warnings

- Since contains cement, irritating to eyes, respiratory system and skin. For further information refer to safety data sheet.
- Grout colors may show difference from original because of the printing method used in this color card. The absorption of tile, water content of grout and climatic conditions may effect color shades.

Storage

- Store in dry medium. Do not stack more than 10 bags on top of each other.

Packaging

- 3 kg and 5 kg polyethylene bags.
- 3 kg: 10 pieces / carton case
- 5 kg: 5 pieces / carton case

Technical Properties

(at 23°C and 50% RH)

General Data

| | |
|------------|---|
| Appearance | White and coloured powder |
| Shelf Life | 12 months when stored in the original sealed packing in dry place |

Application Data

| | |
|-------------------------------|---|
| Mixing Ratio | 0.9-1 lt water / 3 kg powder, 1.50-1.65 lt water / 5 kg powder |
| Application Temperature Range | (+5°C)-(+35°C) |
| Pot Life | 1 hour |
| Set to Light Traffic | 24 hours |
| Consumption | See consumption table depending on width of the joints and dimensions of the tile |

Performance Data

| | |
|--|-------------------------|
| Flexural Strength (EN 12808-3) | ≥ 2.5 N/mm ² |
| Compressive Strength (EN 12808-3) | ≥ 15 N/mm ² |
| Flexural Strength (after freeze/thaw cycles) (EN 12808-3) | ≥ 2.5 N/mm ² |
| Compressive Strength (after freeze/thaw cycles) (EN 12808-3) | ≥ 15 N/mm ² |
| Abrasion Resistance (EN 12808-2) | ≤ 1000 mm ³ |
| Shrinkage (EN-12808-4) | ≤ 3 mm/m |
| Water Absorption after 30 min / 4 hours (EN 12808-5) | ≤ 5 g / ≤ 10 g. |
| Service Temperature Range (after final cure) | (-30°C)-(+80°C) |



Certificates of Quality:
 TS EN 13888, Class CG2A
 C: Cementitious
 G: Grout
 2: Improved
 A: High Abrasion Resistance

Colors of Grouting Mortars

FUGA, ULTRAFUGA, FUGAFLEX, ULTRAFUGA FLEX, FUGAPOOL



White UF / F / FF / FP / UFF / UFFT



Grey UF / F / FF / FP / UFF



Uludag Grey UF / F / FF / UFF / FP



Satin Grey UF / F / FF / FP / UFF



Cappadocia Beige UF / F / FF / FP



Bahama Beige UF / F / FF / UFF / FP



Ivory UF / F / FF / UFF / FP



Milet Brown UF / FF / UFF



Brown UF / F / FF / UFF



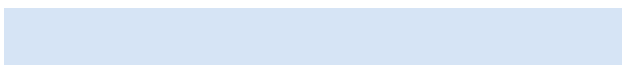
Light Brown UF / F / FF / UFF



Cappadocia Light Brown UF / FF / UFF



Cotto UF / FF



Atlas Blue UF / F / FF / FP



Mediterranean Blue UF / FF / FP



Bitter UF / FF



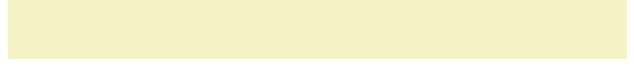
Almond Green UF / FF



Walnut UF / FF



Mustard UF / FF



Satin Yellow UF / FF / UFF



Powder UF / FF



Dry Rose UF / F / FF



Vanilla UF / FF



Black UF / F / FF / UFF



Pool Blue UF / FF / FP / UFF



Cappadocia Cream UF / F / FF / FP



Dydima Beige UF / F / FF



Avanos Beige UF / FF



Ürgüp Beige UF / F / FF



Nevsehir Beige UF / F / FF



Anthracite UF / FF / UFF



Cacao UF / FF

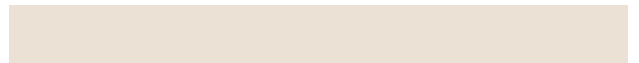


Jasmine UF / FF

Grout colors may show difference from original because of the printing method used in this color card.

The absorption of tile, water content of grout and climatic conditions may effect color shades.

UF-ULTRAFUGA / F-FUGA / FF-FUGAFLEX / FP-FUGAPOOL / UFF-ULTRAFUGAFLEX / UFFT-ULTRAFUGAFLEX TOZUMAZ

FUGASİM Gold Colors**Black****Grey****Brown****Beige****Blue****FUGASİM Silver Colors****Black****Grey****Brown****Beige****Blue****FUGASİM Copper Colors****Black****Grey****Brown****Beige****Blue****EPOTECH + Colors****White****Grey****FUGATECH Colors****White****Grey****Beige**

Cementitious Grouting Mortar Consumption Chart

| Tile Dimensions (cm) | Joint Gap Depth (mm) | Joint Gap Width (mm) | | | | | | |
|----------------------|----------------------|----------------------------------|------|------|------|------|------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 10 |
| | | Consumption (gr/m ²) | | | | | | |
| 2,5x2,5 | 6 | 800 | 1600 | 2400 | 3200 | 4000 | 4750 | 7950 |
| | 8 | 1100 | 2100 | 3200 | 4250 | 5300 | 6350 | 10600 |
| | 10 | 1350 | 2650 | 4000 | 5300 | 6650 | 7950 | 13200 |
| | 12 | 1600 | 3200 | 4750 | 6350 | 7950 | 9500 | 15850 |
| 5x5 | 6 | 400 | 800 | 1200 | 1600 | 2000 | 2400 | 4000 |
| | 8 | 550 | 1110 | 1600 | 2100 | 2650 | 3200 | 5300 |
| | 10 | 700 | 1350 | 2000 | 2650 | 3300 | 4000 | 6600 |
| | 12 | 800 | 1600 | 2400 | 3200 | 4000 | 4750 | 7950 |
| 10x10 | 6 | 200 | 400 | 600 | 800 | 1000 | 1200 | 2000 |
| | 8 | 300 | 550 | 800 | 1100 | 1350 | 1600 | 2650 |
| | 10 | 350 | 700 | 1000 | 1350 | 1650 | 2000 | 3300 |
| | 12 | 400 | 800 | 1200 | 1600 | 2000 | 2400 | 4000 |
| 10x20 | 6 | 150 | 300 | 450 | 600 | 750 | 900 | 1500 |
| | 8 | 200 | 400 | 600 | 800 | 990 | 1200 | 2000 |
| | 10 | 250 | 500 | 750 | 1000 | 1250 | 1500 | 2500 |
| | 12 | 300 | 600 | 900 | 1200 | 1500 | 1800 | 3000 |
| 20x20 | 6 | 100 | 200 | 300 | 400 | 500 | 600 | 1000 |
| | 8 | 150 | 300 | 400 | 550 | 700 | 800 | 1350 |
| | 10 | 200 | 350 | 500 | 700 | 850 | 1000 | 1650 |
| | 12 | 200 | 400 | 600 | 800 | 1000 | 1200 | 2000 |
| 20x30 | 6 | 100 | 200 | 250 | 350 | 450 | 500 | 850 |
| | 8 | 150 | 250 | 350 | 450 | 550 | 700 | 1100 |
| | 10 | 150 | 300 | 450 | 550 | 700 | 850 | 1400 |
| | 12 | 200 | 350 | 500 | 700 | 850 | 1000 | 1650 |
| 20x50 | 6 | 100 | 150 | 250 | 300 | 350 | 450 | 700 |
| | 8 | 100 | 200 | 300 | 400 | 500 | 550 | 950 |
| | 10 | 150 | 250 | 350 | 500 | 600 | 700 | 1150 |
| | 12 | 150 | 300 | 450 | 550 | 700 | 850 | 1400 |
| 25x33 | 6 | 100 | 150 | 250 | 300 | 350 | 450 | 700 |
| | 8 | 100 | 200 | 300 | 400 | 500 | 600 | 950 |
| | 10 | 150 | 250 | 350 | 500 | 600 | 700 | 1200 |
| | 12 | 150 | 300 | 450 | 600 | 700 | 850 | 1400 |
| 25x40 | 6 | 100 | 150 | 200 | 250 | 350 | 400 | 650 |
| | 8 | 100 | 200 | 250 | 350 | 450 | 550 | 850 |
| | 10 | 150 | 250 | 350 | 450 | 550 | 650 | 1100 |
| | 12 | 150 | 250 | 400 | 550 | 650 | 800 | 1300 |
| 25x75 | 6 | 50 | 100 | 200 | 250 | 300 | 350 | 550 |
| | 8 | 100 | 150 | 250 | 300 | 350 | 450 | 700 |
| | 10 | 100 | 200 | 300 | 350 | 450 | 550 | 900 |
| | 12 | 150 | 250 | 350 | 450 | 550 | 650 | 1050 |
| 30x30 | 6 | 100 | 150 | 200 | 300 | 400 | 400 | 700 |
| | 8 | 100 | 200 | 300 | 350 | 450 | 550 | 900 |
| | 10 | 150 | 250 | 350 | 450 | 550 | 700 | 1100 |
| | 12 | 150 | 300 | 400 | 550 | 700 | 800 | 1350 |
| 30x45 | 6 | 100 | 150 | 200 | 250 | 300 | 350 | 550 |
| | 8 | 100 | 150 | 250 | 300 | 400 | 450 | 750 |
| | 10 | 100 | 200 | 300 | 400 | 500 | 550 | 950 |
| | 12 | 150 | 250 | 350 | 450 | 550 | 700 | 1100 |

| Tile Dimensions (cm) | Joint Gap Depth (mm) | Joint Gap Width (mm) | | | | | | |
|----------------------|----------------------|----------------------------------|-----|-----|-----|-----|-----|------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 10 |
| | | Consumption (gr/m ²) | | | | | | |
| 30x60 | 6 | 50 | 100 | 150 | 200 | 250 | 300 | 500 |
| | 8 | 100 | 150 | 200 | 300 | 350 | 400 | 700 |
| | 10 | 100 | 200 | 250 | 350 | 450 | 500 | 850 |
| | 12 | 100 | 200 | 300 | 400 | 500 | 600 | 1000 |
| 30x90 | 6 | 50 | 100 | 150 | 200 | 250 | 300 | 450 |
| | 8 | 100 | 150 | 200 | 250 | 300 | 350 | 600 |
| | 10 | 100 | 150 | 250 | 300 | 400 | 450 | 750 |
| | 12 | 100 | 200 | 300 | 350 | 450 | 550 | 900 |
| 33x33 | 6 | 100 | 150 | 200 | 250 | 300 | 400 | 600 |
| | 8 | 100 | 200 | 250 | 350 | 400 | 500 | 800 |
| | 10 | 100 | 200 | 300 | 400 | 500 | 600 | 1000 |
| | 12 | 150 | 250 | 400 | 500 | 600 | 750 | 1200 |
| 33x50 | 6 | 50 | 100 | 150 | 200 | 250 | 300 | 500 |
| | 8 | 100 | 150 | 200 | 300 | 350 | 400 | 700 |
| | 10 | 100 | 200 | 250 | 350 | 450 | 500 | 850 |
| | 12 | 100 | 200 | 300 | 400 | 500 | 600 | 1000 |
| 40x40 | 6 | 50 | 100 | 150 | 200 | 250 | 300 | 500 |
| | 8 | 100 | 150 | 200 | 300 | 350 | 400 | 700 |
| | 10 | 100 | 200 | 250 | 350 | 450 | 500 | 850 |
| | 12 | 100 | 200 | 300 | 400 | 500 | 600 | 990 |
| 45x45 | 6 | 50 | 100 | 150 | 200 | 250 | 300 | 450 |
| | 8 | 100 | 150 | 200 | 250 | 300 | 350 | 500 |
| | 10 | 100 | 150 | 250 | 300 | 400 | 450 | 750 |
| | 12 | 100 | 200 | 300 | 350 | 450 | 550 | 900 |
| 45x90 | 6 | 50 | 100 | 100 | 150 | 200 | 200 | 350 |
| | 8 | 50 | 100 | 150 | 200 | 250 | 300 | 450 |
| | 10 | 100 | 150 | 200 | 250 | 300 | 350 | 550 |
| | 12 | 100 | 150 | 200 | 300 | 350 | 400 | 700 |
| 50x100 | 6 | 50 | 100 | 100 | 150 | 150 | 200 | 300 |
| | 8 | 50 | 100 | 150 | 200 | 200 | 250 | 400 |
| | 10 | 50 | 100 | 150 | 200 | 250 | 300 | 500 |
| | 12 | 100 | 150 | 200 | 250 | 300 | 400 | 600 |
| 50x150 | 6 | 50 | 100 | 100 | 150 | 150 | 200 | 300 |
| | 8 | 50 | 100 | 150 | 150 | 200 | 250 | 350 |
| | 10 | 50 | 100 | 150 | 200 | 250 | 300 | 450 |
| | 12 | 100 | 150 | 200 | 250 | 300 | 350 | 550 |
| 60x60 | 6 | 50 | 100 | 100 | 200 | 200 | 200 | 350 |
| | 8 | 50 | 100 | 150 | 300 | 250 | 300 | 450 |
| | 10 | 50 | 100 | 200 | 250 | 300 | 350 | 550 |
| | 12 | 100 | 150 | 200 | 300 | 350 | 400 | 700 |
| 60x120 | 6 | 50 | 50 | 100 | 100 | 150 | 150 | 250 |
| | 8 | 50 | 100 | 100 | 150 | 200 | 200 | 350 |
| | 10 | 50 | 100 | 150 | 200 | 200 | 250 | 450 |
| | 12 | 50 | 100 | 150 | 200 | 250 | 300 | 500 |



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